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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,850	02/20/2002	Thomas Richard Phillips	AD-6621	3686

7590

02/04/2005

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Wilmington, DE 19898

EXAMINER
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ROSSI, JESSICA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/980,850	Applicant(s) PHILLIPS, THOMAS RICHARD	
	Examiner Jessica L. Rossi	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/22/04, Amendment.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-3, in the reply filed on 11/22/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Response to Amendment***

2. This action is in response to the amendment dated 11/22/04. Claims 1-4 are pending but claim 4 remains withdrawn from further consideration.

3. Support for the limitations added to claim 1 pertaining to extruding or co-extruding the color concentrate can be found in the specification on p. 4, lines 17-31.

4. The rejection of claims 1-2 under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (of record) in view of Kondo (of record) and Ullman's Encyclopedia of Industrial Chemistry (of record), as set forth in paragraph 8 of the previous office action, has been withdrawn in light of the present amendment.

### ***Specification***

5. As set forth in paragraph 4 of the previous office action, this application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claim 1, the specification does not have support for “solid color concentrate chips comprising a pigment dispersed in a low molecular weight polyvinyl butyral resin, said chips comprising from about 10 to 60 weight percent of the pigment” in lines 5-11. Note p. 2, lines 27-30 of specification, which discloses a color concentrate comprised of solid pigmented chips dispersed in a low molecular weight polyvinyl butyral resin with the chips comprising about 10-60 weight percent of the color concentrate (appears Applicant is confusing the chips and pigment; see 112 2<sup>nd</sup> paragraph rejection set forth below).

With respect to claim 1, the specification does not have support for “**directly** depositing said color concentrate on a roughened surface of polyvinyl butyral sheeting as a dried color coating.” Note p. 2, line 32 – p. 3, line 1 and p. 6, lines 1-2 of specification.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear what Applicant means by “chips comprising a pigment dispersed in a low molecular weight polyvinyl butyral resin, said chips comprising from about 10 to 60 weight percent of the pigment” in lines 5-11. If the chips are comprised of the pigment, how can the chips comprise 10-60 weight percent of the pigment, which implies that the pigment is comprised of the chips? Therefore, are the chips comprised of the pigment or is the pigment comprised of the chips? Applicant is asked to clarify.

Based on the specification, it appears that the chips are comprised of a pigment dispersed in a low molecular weight polyvinyl butyral resin (p. 5, lines 5-12; p. 4, lines 7-11). However, the specification only has support for the pigment comprising 40 weight percent of the chips (p. 5, lines 1-2 and 6-7). Note that the portion of the specification that does disclose a weight percentage of 10-60 is referring to the weight percentage of the chips in a color concentrate, which is comprised of solid pigmented chips dispersed in a low molecular weight polyvinyl butyral resin (p. 2, lines 27-32).

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US 5487939; of record) in view of Ullman's Encyclopedia of Industrial Chemistry (of record).

*\*Note '939 to Phillips has a common inventor and common assignee with that of the present invention; however, it is also noted that this reference is available as 102(a)-type art.*

With respect to claim 1, Philips is directed to a process for preparing colored thermoplastic composite sheeting for use in laminated structures (e.g. laminated safety glass;

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column 7, lines 53-56). The reference teaches providing solid color concentrate particles (chips) dispersed in a polyvinyl butyral resin binder (column 3, lines 59-60; column 7, lines 4, line 66 – column 5, line 3) with the chips comprising about 10 weight percent of the color concentrate (column 4, lines 8-12). The reference teaches directly depositing the color concentrate on a roughened surface of a polyvinyl butyral sheeting as a dried colored coating (column 2, lines 26-28 and 34-38; column 7, lines 54-56; claim 1).

The reference is silent as to the polyvinyl butyral resin binder having a low molecular weight.

It is well known in the PVB resin art that low molecular weight PVB resin is better suited for inks, pigments, dispersions, etc. as taught by Ullmann's Encyclopedia (p. 752, 1<sup>st</sup> column under subheading "Paints"). Therefore, it would have been obvious to the skilled artisan at the time the invention was made to use a low molecular weight PVB resin for the PVB resin of Phillips because such is known in the art, as taught by Ullman's, and it is well-suited for use with pigments.

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. and Ullman's Encyclopedia as applied to claim 1 above, and further in view of Kondo (US 5830568; of record).

Regarding claim 2, Phillips is silent as to the chips having a mean particle size from about 50 to 500 nm.

Phillips acknowledges a concern in the art with minimizing haze in laminated safety glass having a colored thermoplastic interlayer (column 4, lines 48-52). Philips also acknowledges

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that haze is directly related to the ultimate size of the pigment particles in the dispersion (column 4, lines 54-56).

It is known in the art to minimize haze in safety glass laminates, having a colored thermoplastic PVB interlayer, by using pigment particles having a pre-selected particle size - specifically, a diameter of up to 0.2  $\mu\text{m}$  (= 200 nm), as taught by Kondo (abstract; column 2, lines 62-65; column 3, lines 2-5 and **34-40** and 57-59; column 5, **lines 14-18** and 47-50); note particle size falls within range claimed and/or disclosed by present invention (see claim 2) while also having similar haze values – compare reference's haze value of 0.2% (column 12, line 29) with that of present invention found in Table 1 on p. 6.

Therefore, it would have been obvious to the skilled artisan at the time the invention was made to use pigment particles having a mean particle size that falls within Applicant's claimed range for that of Phillips because such is known in the art, as taught by Kondo, wherein these size particles minimize haze in the finished product.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. and Ullman's Encyclopedia as applied to claim 1 above, and further in view of GB 1245268 (of record).

Regarding claim 3, selection of a particular viscosity for the low molecular weight PVB resin of Phillips would have been within purview of the skilled artisan at the time the invention was made depending on the desired characteristics thereof. However, it would have been obvious to the skilled artisan to use a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C as a 5% solution in n-butanol because such is known in the art when using PVB resin as a binder for pigment particles, as

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taught by GB 1245268 (p. 1, left column, lines 10-14; p. 4, left column, lines 54-62); note “Mowital B30” taught by GB ‘268 is that being disclosed by present invention on p. 5, lines 8-12.

14. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo in view of Ullman’s Encyclopedia of Industrial Chemistry.

With respect to claim 1, Kondo is directed to a process for preparing colored thermoplastic composite sheeting for use in laminated structures (e.g. automotive and architectural laminated glass; column 2, lines 25-31; column 5, lines 14-19). The reference teaches providing a color concentrate comprising solid pigmented particles (chips) dispersed in a polyvinyl butyral resin with the particles comprising about 10 weight percent of the color concentrate (column 3, lines 19-21, 34-39 and 57-59). The reference teaches directly extruding the color concentrate chips with end-use polyvinyl butyral resin (column 7, lines 5-20 and 55-56).

The reference is silent as to the chips being dispersed in a low molecular weight polyvinyl butyral resin.

It is well known in the PVB resin art that low molecular weight PVB resin is better suited for inks, pigments, dispersions, etc. as taught by Ullmann’s Encyclopedia (p. 752, 1<sup>st</sup> column under subheading “Paints”). Therefore, it would have been obvious to the skilled artisan at the time the invention was made to use a low molecular weight PVB resin for the PVB resin of Kondo because such is known in the art, as taught by Ullman’s, and it is well-suited for use with pigments.



Regarding claim 2, Kondo teaches the particles having a diameter up to 0.2  $\mu\text{m}$  (= 200 nm; column 3, lines 10-16).

15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo and Ullman's Encyclopedia as applied to claim 1 above, and further in view of GB 1245268.

Regarding claim 3, selection of a particular viscosity for the low molecular weight PVB resin of Kondo in view of Ullman's would have been within purview of the skilled artisan at the time the invention was made depending on the desired characteristics thereof. However, it would have been obvious to the skilled artisan to use a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C as a 5% solution in n-butanol because such is known in the art when using PVB resin as a binder for pigment particles, as taught by GB 1245268 (p. 1, left column, lines 10-14; p. 4, left column, lines 54-62); note "Mowital B30" taught by GB '268 is that being disclosed by present invention on p. 5, lines 8-12.

### ***Double Patenting***

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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17. Claims 1-2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 5487939 to Phillips et al. in view of Kondo and Ullman's Encyclopedia.

With respect to claim 1, claim 4 of the '939 Patent teaches all the limitations except the weight percent of the particles and the polyvinyl butyral resin being low molecular weight.

It would have been obvious to use pigmented particles comprising about 10 weight percent of the color concentrate because such is known in the art, as taught by Kondo (see above for complete discussion), wherein such a percentage allows for excellent color tone without affecting the haze of the finished laminate.

It would have been obvious to the skilled artisan at the time the invention was made to use a low molecular weight PVB resin for the PVB resin of the '939 Patent because such is known in the art, as taught by Ullman's (see above for complete discussion), and it is well-suited for use with pigments.

Regarding claim 2, it would have been obvious to the skilled artisan at the time the invention was made to use pigment particles having a mean particle size that falls within Applicant's claimed range for that of '939 Patent because such is known in the art, as taught by Kondo (see above for complete discussion), wherein these size particles minimize haze in the finished laminate.

18. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 5487939 to Phillips et al. in view of Kondo and Ullman's Encyclopedia as applied to claim 1 above and further in view of GB 1245268.

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Regarding claim 3, it would have been obvious to the skilled artisan to use a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C as a 5% solution in n-butanol for that of the '939 Patent because such is known in the art when using PVB resin as a binder for pigment particles, as taught by GB 1245268 (see above for complete discussion).

19. Claims 1-2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-7 and 11 of U.S. Patent No. 5487939 to Phillips et al. in view of Kondo and Ullman's Encyclopedia.

With respect to claim 1, claims 1 and 11 of the '939 Patent teach all the limitations except the weight percent of the particles and the type of resin into which the particles are dispersed.

It would have been obvious to use pigmented particles comprising about 10 weight percent of the color concentrate wherein the particles are dispersed in a PVB resin because such is known in the art, as taught by Kondo (see above for complete discussion), wherein such a percentage allows for excellent color tone without affecting the haze of a laminated structure and wherein PVB resin is well-suited for laminated structures.

It would have been obvious to the skilled artisan at the time the invention was made to use a low molecular weight PVB resin for the PVB resin because such is known in the art, as taught by Ullman's (see above for complete discussion), and it is well-suited for use with pigments.

Regarding claim 2, it would have been obvious to the skilled artisan at the time the invention was made to use pigment particles having a mean particle size that falls within Applicant's claimed range for that of '939 Patent because such is known in the art, as taught by

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Kondo (see above for complete discussion), wherein these size particles minimize haze in the finished laminate.

20. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-7 and 11 of U.S. Patent No. 5487939 to Phillips et al. in view of Kondo and Ullman's Encyclopedia as applied to claim 1 above and further in view of GB 1245268.

Regarding claim 3, it would have been obvious to the skilled artisan to use a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C as a 5% solution in n-butanol for that of the '939 Patent because such is known in the art when using PVB resin as a binder for pigment particles, as taught by GB 1245268 (see above for complete discussion).

#### ***Response to Arguments***

21. Applicant's arguments filed 11/22/04 have been fully considered but they are not persuasive.

22. On page 4 of the arguments, Applicant argues that one skilled in the art would not combine the teachings of Phillips and Kondo because Kondo teaches away from a colored laminate.

First, the examiner points out that Phillips is no longer being combined with Kondo to reject claim 1 because of the amendment to claim 1, which deleted some of the limitations in the original claim.

Second, the examiner would like to point out that Phillips is still being combined with Kondo to reject claim 2 because Kondo teaches making a colorless laminate **or a colored laminate** (column 2, lines 25-27; column 5, lines 15-19).

23. On page 5 of the arguments, Applicant argues that the particles of Kondo must be coated with an organic resin to overcome strong adhesion that is created between the PVB and glass wherein such is not a problem when using the fine pigment chips as claimed in the present invention.

First, the examiner would like to point out that the organic resin coating of Kondo is optional (column 4, lines 13-30). Second, the examiner would like to point out that the above argument is not commensurate with the scope of the claimed invention since the presently claimed invention does not exclude such a coating.

24. On page 5 of the arguments, Applicant argues that Ullman teaches away from Applicant's claimed invention because the reference teaches that the pigments are to be dissolved rather than dispersed in the PVB resin binder.

The examiner points out that Ullman was only used to show it being known in the PVB resin art that low molecular weight PVB resin is better suited for inks, pigments, dispersions, etc.

25. On page 5 of the arguments, Applicant argues that GB 1245268 requires the presence of water but does not teach how to dry the composite obtained and therefore the teachings of GB '268 would result in an unacceptable composition for use in the practice of the present invention.

The examiner points out that GB '268 was only used to show a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C

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as a 5% solution in n-butanol being known in the art when using PVB resin as a binder for pigment particles.

### *Conclusion*

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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